

Expression of Interest



Contact Person/Scientist in Charge

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Universitat Politècnica de València (UPV)

Department / Institute / Centre

- **Name:** Departamento de Ingeniería Rural y Agroalimentaria. Universitat Politècnica de València
- **Address:** Campus de Vera; Camino de Vera, s/n; Valencia (46022)
- **Province:** Valencia

Research Area

- Information Science and Engineering (ENG)

Brief description of the institution:

Universitat Politècnica de València (UPV) is the single Spanish Technical University that features in the main University world rankings. It is within the top 5 Spanish Universities with the highest revenue from both public research and knowledge transfer activities, and a national leader in patent license income and start up creation. Constituted in 1971, it comprises nearly 30.000 students, over 2500 academics, and 17 university research centres of excellence.

UPV has a relevant experience in the participation in international research programmes, with over 100 FP7 projects and 40 H2020 projects in the period 2014-2015. UPV researchers are also actively involved all H2020 life program stages, from workprogramme drafting discussions, to project coordination. It is also taking part in several major partnering initiatives (JTIs, PPPs, KICs...).

Brief description of the Centre/Research Group (including URL if applicable):

Universitat Politècnica de València (UPV) is the only technological University in Spain to feature in all the world university rankings. The UPV has partnerships with institutions in 50 different countries. The university has twice received the International Campus of Excellence. In its Polytechnic City of Innovation 1.600 scientists and 400 support staff works surrounded by cutting-edge technological equipment. UPV have results with great societal impact. It is among the universities with the highest revenue from competitive research. It has modern facilities and excellent services, as well as outstanding sports facilities. The campus is car-free, with more than 125000 m² of green spaces, cafés with terraces, banks and shops.

The Department of Rural & Agrifood Engineering, particularly its Agricultural Robotics Laboratory, applies the core ideas of robotics, information technology, and precision farming to off-road vehicles operating in the environments required by specialty crops, in particular Mediterranean crops. Research is basically focused on emergent technologies (satellite-based positioning systems, computer vision, control architectures, and novel field-oriented sensors). The lab has been recipient of two international research awards: Edmund Optics Research & Innovation Award; Farming by satellite 2012 prize, and one national award: Valencia Idea 2011 Research award. (<http://robotagri-lab.webs.upv.es/>)

Project description:

Design and development of robotic solutions for precision agriculture in the area of specialty crops, especially the crops that are strategic for European markets.

The project will consist of the application of the following philosophy: each datum from the sensors used in the field needs to be recorded with a location delivered by GNSS. In the project, data recorded from the field (position, measurements, time, etc.) will go to a reliable site located in the cloud and available day and night. The data sent to the cloud will be transformed into maps accessible by the grower from any location in the world with internet connection. The output will always be a Standardized Prescription Map. Prescription (recommendation) maps are key to manage croplands to turn PA philosophy into reality. Obtaining prescription maps for the producer is giving a specific solution for a given problem. This output will be invariant in space and time to ease the implementation of PA anywhere and anytime, so grid cell maps in LTP coordinates will need to be implemented.

Applications

- CV including journal papers as first author and international experience.
- Statement of purpose.